due to rats equal at least 200 million dollars. He also states that in order to feed and otherwise provide for this enormous destructive army of rats, the labour of 200,000 men is required annually.

Menace to Health.—Besides the enormous destruction of food supplies, the brown rat is a serious menace to public health. It is a carrier of bubonic plague, one of the most devastating of human diseases, which has been carried by the rat all over the world. In the fourteenth century it is estimated that about twenty-five million people died in Europe from the "Black Death," as this disease was called, and 2,000,000 deaths are stated to have occurred during the epidemic of the plague in India in 1907. Bubonic plague is transmitted from rats to human beings by fleas, and modern methods of preventing the spread of plague involve the most vigorous eradication of rats, and the prevention of their landing in seaports from ocean-going vessels by which they are transported.

Investigations into the recent outbreak of infantile paralysis (*Poliomyelitis*), which was especially prevalent in the eastern United States, have indicated that the rat may be an important factor in the spread of this disease.

Prolific Habits.—The serious nature of the rat menace is more keenly appreciated when their prolific habits are realized. The brown rat begins to breed when it is about three or four months old; they breed from six to ten times a year, and produce, on the average, ten young in a litter. If we imagine a pair of rats breeding at this rate uninterruptedly for three years without any deaths to their progeny, at the end of that period the number would have increased from two to over 350 million rats.

Mice produce fewer young in a litter, but they bring forth their families with astonishing rapidity.

HOW TO PROTECT GRAIN, FOOD, AND OTHER STORED PRODUCTS FROM RATS AND MICE.

The main reason for the abundance and destructiveness of rats is that we provide ample food and shelter for them. To combat these pests successfully we must deny them both these essentials. We must starve them out and build them out.

They should be denied access to places where they obtain food and rear their young. To accomplish this, buildings should be made rat-proof; and the best method of construction for this purpose is concrete. In the construction and maintenance of buildings in which food is kept and rats are likely to find lodgment, special attention should be paid to the closing of all apertures, especially in foundations where drain and other pipes enter. Doors to such buildings should be bound with strong sheet metal. Constant vigilance should be exercised with a view to checking any inroads of these pests; the holes of rats or mice can be readily stopped by a little concrete or broken glass or crockery. Cement should be used for foundations of all kinds of storehouses, granaries, poultry houses. Corn cribs can be rendered ratproof by inclosing them in heavy galvanized wire netting of half-inch mesh. Storerooms should always be made ratproof by the adoption of the foregoing constructural methods.

So long as old buildings and storerooms are maintained in a state of disrepair, rats and mice will flourish and destroy their contents. It is not only in the interests of private economy, but as a national service, that owners of such rat-infested buildings should take immediate steps to "build out" the rats and save food supplies. Everywhere destruction is proceeding, and everywhere there is greater need than ever at the present time for the saving of every bushel of grain and every pound of food.

Civic authorities, and particularly the health authorities, should adopt and enforce sanitary conditions in towns and cities. Cleanliness and the prevention of the accumulation of refuse and garbage are essential in the eradication of rats. The maintenance of garbage dumps is one of the greatest contributing causes